

Sampling Do's & Don'ts for Water & Wastewater Operators



Presented by
Cindy Brandecker & Sharon Ercoliani

Garden State Laboratories, Inc.

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Sampling - Drinking Water

▶ Drinking Water Watch - Monitoring Schedule

- ▶ Monitoring schedule is found online for MOST requirements on NJ Drinking Water Watch
 - ▶ May also have other permit requirements (i.e. Water Allocation)
- ▶ Very specific schedules that could be weekly, bi-weekly, monthly, quarterly, semi-annual and Annual
- ▶ Constantly changing, best to check it at least monthly

New Jersey Drinking Water Watch				Water System Search
WSID:	NJ1911003	Water System Type:	Community (C)	
Water System Name:	LAKE TAMARACK W CO	System Status:	A	
Principal County & City:	SUSSEX, HARDYSTON TWP-1911	System Ownership:	Private	
WATER SYSTEM INFORMATION	Total Coliform Results	Chemical Results	Monitoring	System Facilities
			Site Visits	Violations
			Other Data	PRINTER FRIENDLY PAGE

Print/download a PDF of this monitoring schedule

Active Schedules
Monitoring schedules are subject to change. In case of error, federal & State regulations apply.

Routine Total Coliform Sampling			
Schedule Starts	Schedule Ends	Monitoring Period	Requirements
01/01/1991	Continuous	1/1--12/31	1 Sample(s)/MN

NOTE: If your system uses a chemical disinfectant, DISINFECTANT RESIDUALS are required to be collected at the same time and place as total coliform samples.

Stage 2 Disinfection Byproducts							
DBP	Sample Point ID	Site Description	Schedule Starts	Schedule Ends	Warmest Month	Required Months to Sample In	Requirements
HAAS	1	23 COTTONWOOD	10/01/2013	Continuous	July	July	1 Sample(s)/YR
TTMH	1	23 COTTONWOOD	10/01/2013	Continuous	July	July	1 Sample(s)/YR
HAAS	2	88 TAMARACK	10/01/2013	Continuous	July	July	1 Sample(s)/YR
TTMH	2	88 TAMARACK	10/01/2013	Continuous	July	July	1 Sample(s)/YR

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Tips to keep in mind while sampling! Drinking Water

- ▶ Supplies needed:
 - ▶ Sanitization method: Alcohol spray bottle? Flame? Bleach? Gloves?
 - ▶ Bottles - using the correct bottles will eliminate much hassle
 - ▶ Coordinate this with the lab to ensure you have the right bottles for the right job!
 - ▶ Tags
 - ▶ Chains of Custody
 - ▶ Meters and logbooks
 - ▶ pH calibration records and log book
 - ▶ Chlorine meter log book
 - ▶ Confirm with the lab that they are going to pickup your samples
 - ▶ Sample storage - on blue ice or real ice - depends on parameters

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Sampling - Wastewater

- ▶ You can find your permit on NJ DataMiner
- ▶ Very specific schedules that could be daily, weekly, bi-weekly, monthly, quarterly, semi-annual and Annual
- ▶ Permit contains information in the text as well regarding special sampling and analysis - bioassay, PCB Congeners and other important information!

▶ Use Your Permit!

**PART III
LIMITS AND MONITORING REQUIREMENTS**

MONITORED LOCATION: 001A Sanitary Outfall RECEIVING STREAM: Paulink Kill STREAM CLASSIFICATION: FW2-NF(C2) DISCHARGE CATEGORIES: A - Sanitary Wastewater

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Units	Frequency	Sample Type
Flow, in Cubic ft per Second at Flow Treatment Plant	Effluent Gross Meter	REPORT Monthly Average	REPORT Daily Maximum	MGD	*****	REPORT 12 Month Rolling Averages	MGD	Continuous	Measured
January thru December CAP Threshold	CL	****	****	****	****	REPORT 12 Month Rolling Averages	PERCENT	15Month	Calculated
January thru December BOD ₅ 5-Day (20 °C)	Effluent Gross Sewer/Inlets	****	****	****	****	REPORT Monthly Average	MG/L	15Month	24 Hour Composite
January thru December BOD ₅ 5-Day (20 °C)	Effluent Gross Value	79.2 Monthly Average	79.2 Weekly Average	MG/L	****	REPORT Monthly Average	MG/L	15Month	24 Hour Composite
May thru October	CL	****	****	****	****	****	****	****	****

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Grab & Composite Sampling

Grab

- ▶ Snapshot of water at a specific moment
- ▶ Sampling equipment: P pump or similar, bailer with bottle attachments, etc.
- ▶ DO NOT SKIM THE SURFACE
- ▶ Typical Parameters:
 - ▶ Analyze Immediate (pH, Chlorine, Temperature), micro, cyanide, phenols

Composite

- ▶ Extended period of time
- ▶ Flow or time proportioned
- ▶ Sampling equipment or enough bottles for manual compositing.
- ▶ Use a weighted probe to capture below the surface
- ▶ Typical Parameters:
 - ▶ BOD, TSS, Ammonia Series, Metals, Organics

Either sampling method needs:

- ▶ PPE (gloves, goggles, sanitizer, etc.)
- ▶ Proper bottles for sampling
- ▶ Tags, chains

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Tips to keep in mind when sampling!

- Wastewater

- ▶ Ensure you are sampling during the correct permit window
- ▶ Watch for short hold times
- ▶ Schedule your sampling/sample pickup with your lab
- ▶ Ensure you have all of your supplies for each parameter

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Sample Transportation - Tips

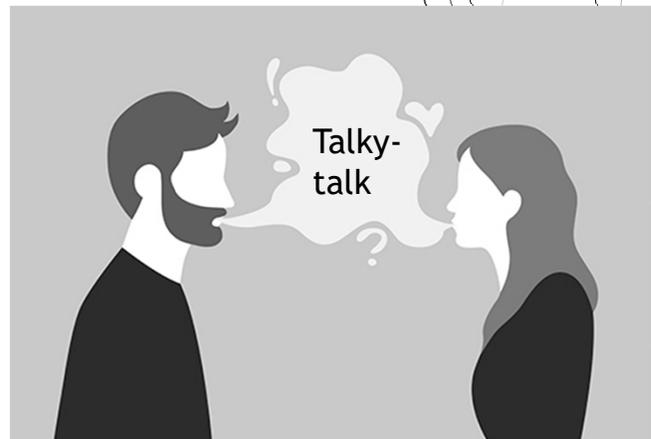
- ▶ Keep them cool
- ▶ Keep them separated
- ▶ Use a temperature blank
- ▶ Reduce contamination
(use real ice sometimes)



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Understanding your Laboratory

- Supply your permit or PWS and establish how you like to handle exceedances & permit limit issues.
- ATTITUDE
- Turnaround Time
- ACPL (Certified Parameters)
- Report Format
- Pricing & Hidden Fees/Charges
- Who to talk to?



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Help your lab help you!

- ▶ Do you need availability on Weekends & Holidays?
- ▶ Do you need access to immediate results?
 - ▶ Bringing down averages
 - ▶ Ensuring compliance
- ▶ Check your results on Drinking water watch -
- ▶ You need your results quickly...
 - ▶ Can your lab do this?
 - ▶ Specify in bids and quotes what your turnaround time needs to be.

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Lab Certification

Ask for a copy of the labs NJ Certification

- ▶ Labs must be certified in the State of New Jersey



Ask for a copy of the labs ACPL

- ▶ These can also be found online in the NJDEP DataMiner website.



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Report Format

- Do you just need results only?
- Do you require a QA/QC Package?
 - More paper for you - can always be provided if there is an issue.
- Do you require a chain of custody with the report?
 - Some labs leave a copy when they sample, some include one with the report.
- Do you only want your report emailed? Mailed?
- Do you want online access to your report in real time to see results?



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Where are my results, and why so many pages?

- ▶ Standard turnaround time for most labs is 10 business days - that assumes that there are no emergencies or problems that sneak in during your analyses.
- ▶ There are requirements that the laboratory must fulfill before releasing your results:
 - ▶ QC results must meet specified method requirements
 - ▶ Department Manager Review
 - ▶ Printing of Report
 - ▶ Lab Director Review and Signature
 - ▶ Primary Lab MUST by regulation send the complete report from the subcontract lab(s)



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Some "easy" reports

Garden State Laboratories, Inc.
Biotechnology and Chemical Testing

415 Hillside Avenue
Edison, New Jersey 07020
NJ07020-3284

Johny Shinn Lab
81 Main Street
Woodbury, New Jersey 07076
NJ07076-1007

Report Date: 1/13/2021

Client: Tru of Rocky River Shop, 1713 Route 41, Lighthouse, NJ 07032

Lab Name: Bruce Kaplan

Lab Sample ID: 2010091401

Collection Date/Time: 1/14/2021 06:00

Sample Type: Grab

Matrix: Non-potable water

Analyte	Method	DF	Sample Result	Unit	Apex Lab. No.	NELC	Lab. Cal. No.	Analysis Date/Time	Qualities
Total Nitrate	EPA 1831.2	2	12.4 mg/l		6.06	6.04	20044	1/14/21 06:00	
Total Phosphate	1.00170100	1	0.20 mg/l		0.06	0.041	20044	1/14/21 06:00	
Total Suspended Solids	SM 2140.2	1	0.06 mg/l		0.009	0.02	20044	1/14/21 13:17	
Ammonia	NYS 306	1	0.36 mg/l		0.009	0.02	20044	1/14/21 13:17	
Chloride	SM 445	1	0.00 mg/l		0.009	0.01	20044	1/14/21 13:41	
Nitrite-N	SM 445	1	0.00 mg/l		0.009	0.01	20044	1/14/21 13:41	
Residual Chlorine	SM 5219	1	1.00 mg/l		0.25	0.04	20044	1/14/21 13:41	

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J.R. HENDERSON LABS, INC.
615 Southern Blvd.
Roseland, NJ 07068
NJ Lab Cert #10882
703-961-8253

Sample ID: 2010091401

Collection Date/Time: 1/14/2021 06:00

Sample Type: Grab

Matrix: Non-potable water

Analyte	Method	DF	Sample Result	Unit	Apex Lab. No.	NELC	Lab. Cal. No.	Analysis Date/Time	Qualities
Total Nitrate	EPA 1831.2	2	12.4 mg/l		6.06	6.04	20044	1/14/21 06:00	
Total Phosphate	1.00170100	1	0.20 mg/l		0.06	0.041	20044	1/14/21 06:00	
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Ammonia	NYS 306	1	0.36 mg/l		0.009	0.02	20044	1/14/21 13:17	
Chloride	SM 445	1	0.00 mg/l		0.009	0.01	20044	1/14/21 13:41	
Nitrite-N	SM 445	1	0.00 mg/l		0.009	0.01	20044	1/14/21 13:41	
Residual Chlorine	SM 5219	1	1.00 mg/l		0.25	0.04	20044	1/14/21 13:41	

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KNL ENVIRONMENTAL TESTING

FL DOH Certification #864025
NJ Laboratory ID# FL008

January 18, 2022

Garden State Laboratories Inc., 415 Hillside Ave., Milliside, NJ 07020

Field Custody: Client: 22010084-02
Client: PRICIS 201
Sample Collection: 01-03-22/0946
Lab ID No: 22-04
Lab Custody Date: 01-04-22/1015
Sample Description: Drinking Water

Thomas J. Winkler, Laboratory Manager

CERTIFICATE OF ANALYSIS

Parameter	Units	Result	Method	Method Description	Method Qualities
Stress Alpha	µS/cm	14.0 ± 0.8	1-4-0220004	ISA 10-00	0.3
Stress Alpha	µS/cm	14.0 ± 0.8	1-4-0220007	ISA 10-00	0.4
Radon-222	µS/cm	3.6 ± 0.2	7601	GM	0.2
Radon-222	µS/cm	1.2 ± 0.2	1-18-2271112	ISA 10-31	0.2
Radon-222	µS/cm	1.4 ± 0.8	1-13-2271217	ISA 10-05	0.2

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ECM
environmental compliance monitoring, inc.

September 21, 2021

Mr. Thomas Foster
Garden State Laboratories, Inc.
415 Hillside Ave.
Milliside, NJ 07020

Dear Mr. Foster:

Analysis of the sample received September 1, 2021, has been completed. The results are presented on the attached table. An initial e-mail notification was performed in accordance with EPA/NDP approved methodology.

If you have any questions pertaining to the analysis, please feel free to contact me.

Very truly yours,
Thomas Francis
Thomas Francis
Laboratory Manager

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Some more "difficult" reports

eurofins Environment Testing America

ANALYTICAL REPORT
Eurofins Easton South Bend
110 S Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Laboratory Job ID: 910-11583-1
Client Project/Job: 200106029-21_22
P.O.
Garden State Labs
415 Hillside Ave.
Milliside, New Jersey 07020
Attn: Sharon Escobar

Authorized for release by:
5/21/2022 9:23:52 AM
Arne Peterson, Project Manager
(814) 233-4777
arne.peterson@eurofins.com

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NUMBER SUBMITTING REPORT FROM: 888787436; CHRONIC IDENTITY 1381

WORKSHEET: 51082462 DNR: 861

FACILITY NAME: Shelburne, Inc., Chemicals Dept
FACILITY LOCATION: Shelburne, NJ 08881

LABORATORY: American Agri-Test, Inc.

ACTIVE TORQUEY CERTIFICATION NUMBER: PA862

TEST INFORMATION: DATE: December 31, 2021 VCL: 361.3 ppm
CONTROL CHART: 394.4 ppm UCL: 465.0 ppm
MEAN: 394.4 ppm LCL: 271.6 ppm

TEST START DATE: January 04, 2022 TEST END DATE: January 11, 2022

TEST TYPE AND RESULTS (check applicable test, circle applicable method and EI in NOEC Also (C))

Fafed nitrate, (CNFM) NOEC NO Kc

Method 1006-B (Phipps-Roberts 7-day Larval Survival and Growth Test)

Chidonus, (CNCD) NOEC Kc 100% (Reproduction) PRSD (B,25)

Method 1002-B (Coriolophus Akahe 3 brood Survival and Reproduction Test)

CONTROL MORTALITY: 8%

Did we see any acceptable controls for the test species as specified in Part III of the Chronic Methods Document? XXX

ACCURACY OF REPORT CERTIFIED BY: [Signature]

NIDEP 356

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ALS Environmental
80 Felling Hill Road • Middletown, PA 17057 • Phone: 717-946-8864 • Fax: 717-946-1000 • www.alsenv.com

December 16, 2021

Mr. Sharon Foster
Garden State Labs, Inc.
415 Hillside Ave.
Milliside, NJ 07020

Certificate of Analysis

Project Name: 211130834 Worksheet: 3115653
Purchase Order: 211130834 Worksheet ID: 211130834

Dear Mr. Foster:

Enclosed are the analytical results for samples received by the laboratory on Friday, December 1, 2021. The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and its tests, specific test and methods used, meet the requirements of NELAP.

If you have any questions regarding the certificate of analysis, please contact Dawn M. Gierhart, Project Coordinator at 717-946-8864.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any associated test requirements. The test results meet requirements of the current NELAP methods or other requirements, where applicable. For a specific list of accredited analyses, refer to the certificate number of the ALS website at www.alsenv.com or our National Environmental Laboratory Accreditation Certificate.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental, ALS Spring City, 15 Riverside Drive, Spring City, PA 17476-8704-8803.

CC: Dawn M. Gierhart, Ms. Sharon Foster
This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

ALS Environmental Laboratory Locations Across North America
Garden State, NJ: 415 Hillside Ave., Milliside, NJ 07020 • Phone: 717-946-8864 • Fax: 717-946-1000 • www.alsenv.com
Report ID: 3115653-10/21/2021 Page 1 of 17

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Chain of Custody

- Basic Client Information: Name, Address, Primary Point of Contact, PWSID#, NJPDES#, Billing Info etc.
- Sample Collection Information: Sample Location or Field ID, Date, Time, Matrix.
- Technical Information: Analysis Requested, Sample Bottles, Preservatives, Field Analysis.
- Reporting Requirements: Turn-Around Time, Compliance, Process Control.
- If you are doing your own sampling, you must fill out the Chain of Custody. Ensure if you use a chemical abbreviation, it is the right one.

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Other Considerations

- ▶ Finding a good lab for you...
 - ▶ Customer Service
 - ▶ Being able to get a HUMAN
 - ▶ You don't think about it...until there is an issue.
 - ▶ Having an ally to guide you through a permit issue, work with the DEP, get the bottles to you in an emergency, pickup in an emergency, run your repeats on a weekend, or Christmas.
 - ▶ IT IS NOT ALWAYS JUST ABOUT THE \$
 - ▶ If you don't understand, call your lab and ask them to help!



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Recordkeeping

- ▶ Safest bet - keep all records for 5 years.
- ▶ Things this includes:
 - ▶ Chain of custodies
 - ▶ Data log books
 - ▶ Reports of Analysis
 - ▶ Calibration logs
 - ▶ pH
 - ▶ Chlorine
- ▶ Data and records pertaining to public health concerns are to be kept for 10 years.



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Questions?

Cindy Brandecker -908-688-8900 ext. 115
cbrandecker@gslabs.com

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